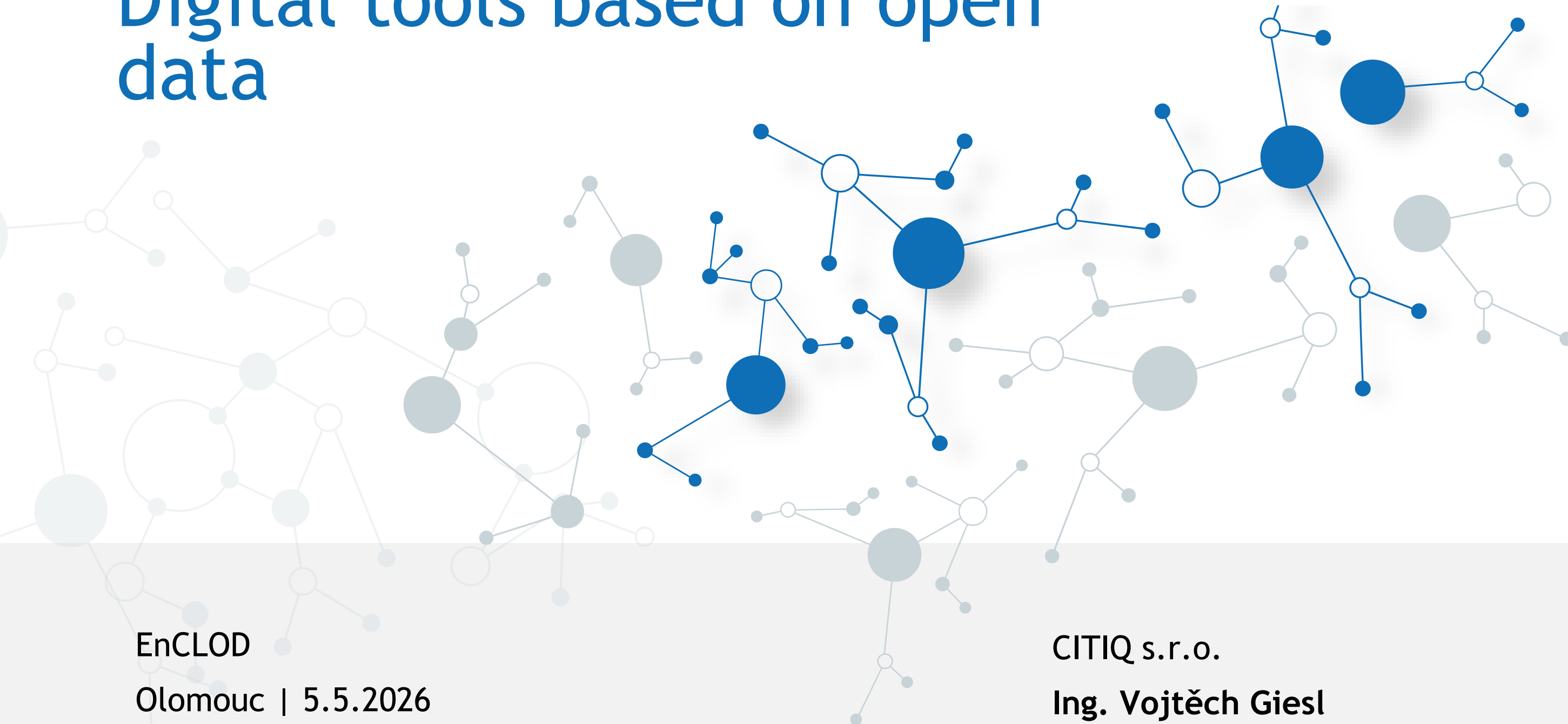


Digital tools based on open data



EnCLOD

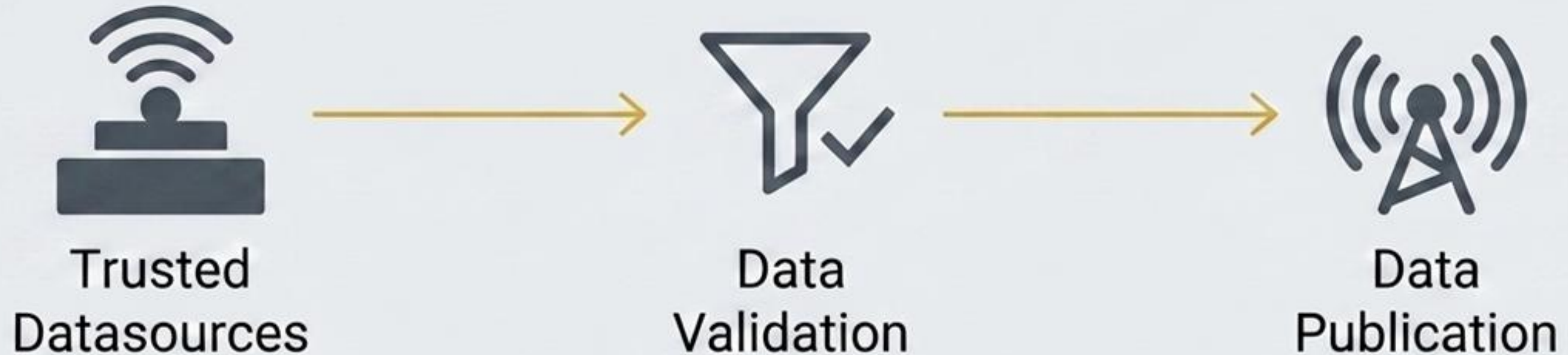
Olomouc | 5.5.2026

CITIQ s.r.o.

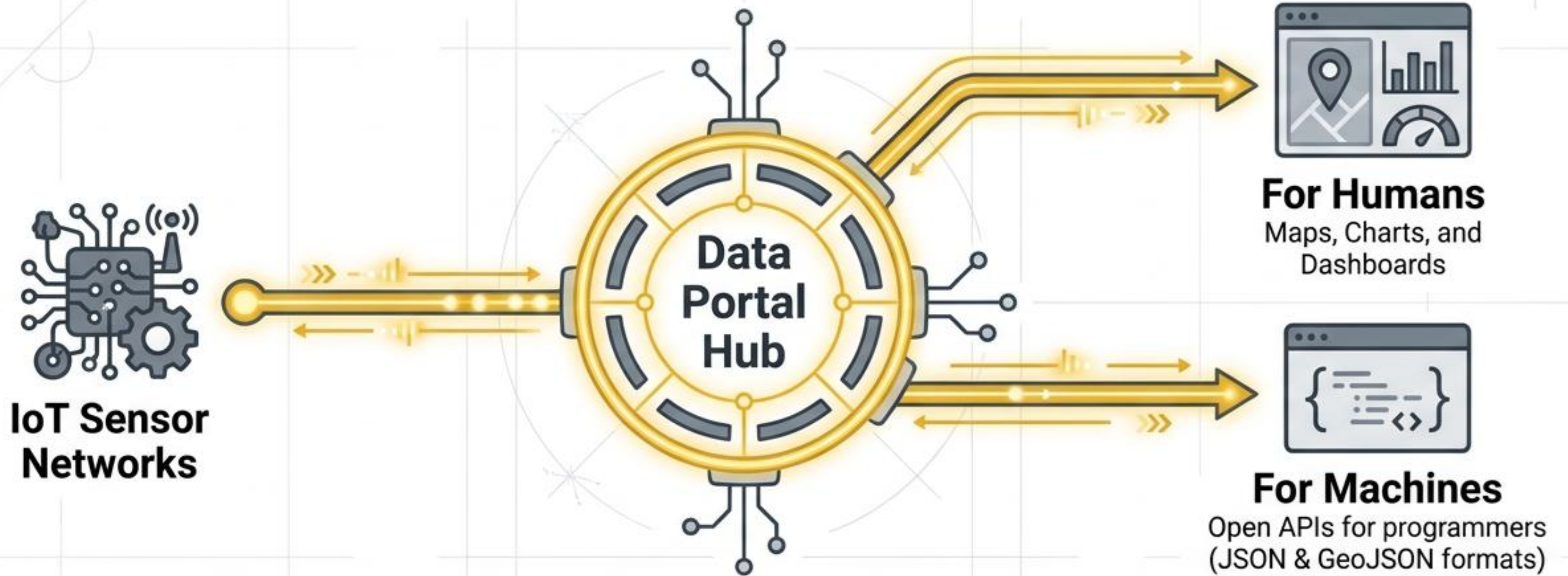
Ing. Vojtěch Giesl

Foundations of Digital Tool

The essential pipeline for reliable smart city management.



The Data Portal Hub



Built on hackathon feedback: Forcing developers to use our raw data helped us perfect an API that bridges the gap between sensors and final applications.

Data Quality & The AI Manifest

Optimizing open data for artificial intelligence with built-in guardrails.



Bronze

Automatically Assessed



Silver

Verified by Administrator



Gold

Guaranteed by Provider

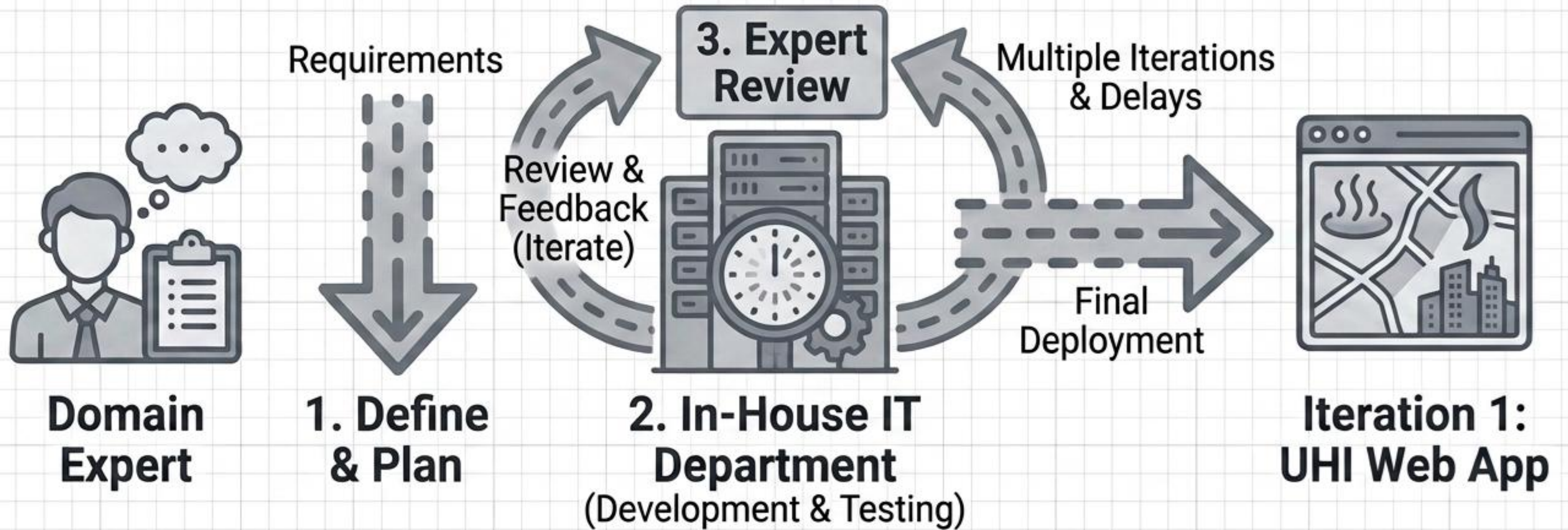


Enables plain-language Chatbots for city officials



Eliminates AI hallucinations via trusted datasources

The Traditional Development Bottleneck



The tool works perfectly, but development is slow. Domain experts are forced to wait in the IT queue to translate climate science into digital tools.

Urban Heat Islands in Olomouc

How data reveals hidden temperature differences across the city and what it means for our quality of life.

Season: 2025

Reload recent data

What, Where, and Why?



What are Urban Heat Islands?

An urban heat island is an urban area that is significantly warmer than its surrounding rural areas due to human activities. Surfaces like asphalt and concrete absorb and retain more heat than natural landscapes.



Why Does it Matter?

Extreme heat poses health risks, increases energy consumption for cooling, and affects overall quality of life. Understanding these hotspots helps us create a more resilient and comfortable city.



How Do We Measure It?

This dashboard uses data from a network of advanced sensors across Olomouc, measuring temperature and humidity at various heights to give a complete picture of the urban microclimate.

Map

Heat Waves

Feels-Like Temp

Location Extremes

Solutions

Open Data

Where is it hottest in Olomouc?

This map shows which locations experienced the most tropical days (temperature over 30°C). A darker color means a greater heat load during the day.

Tropical Days

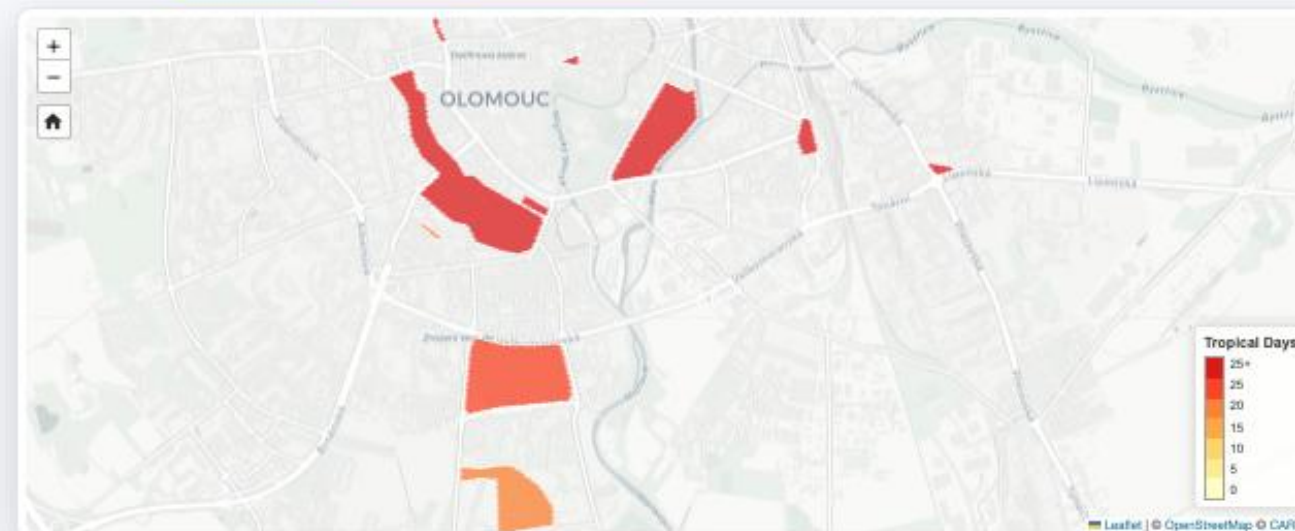
Day Hours

Feels-Like (Day)

Tropical Nights

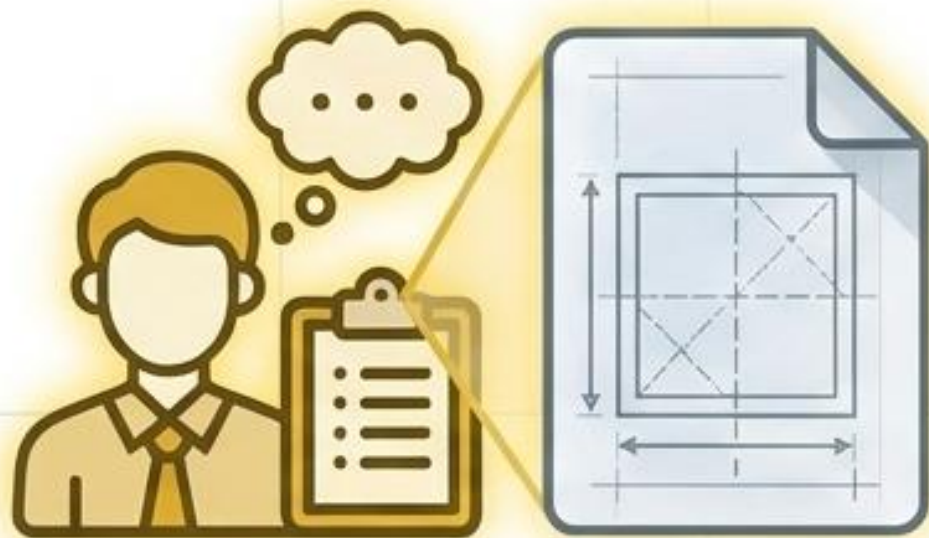
Night Hours

Feels-Like (Night)



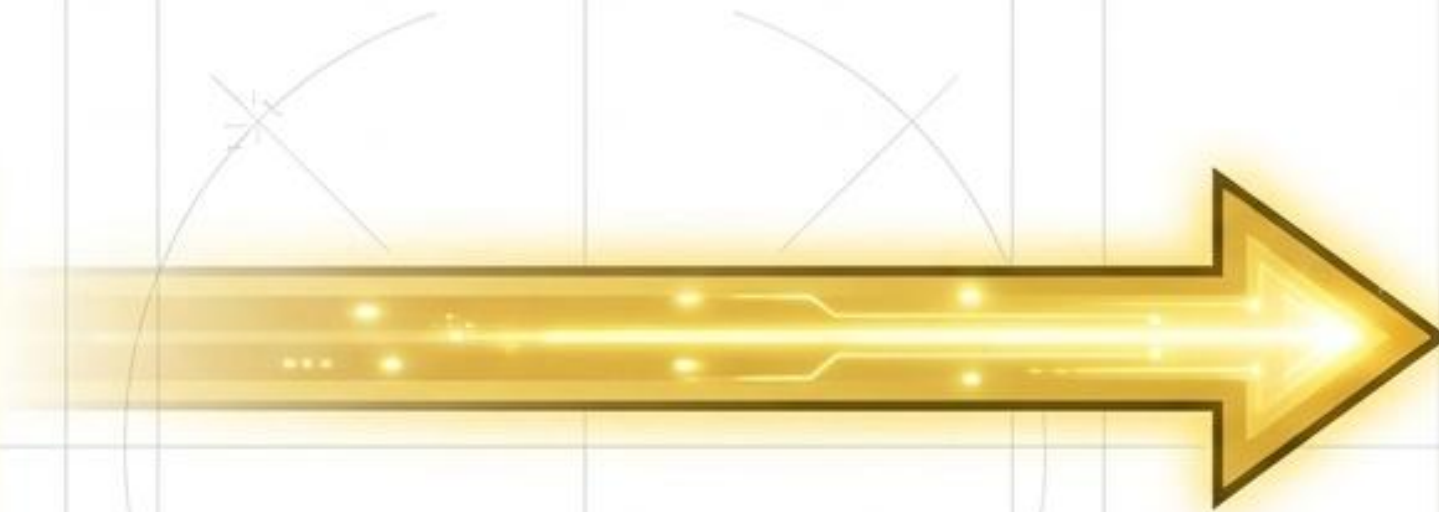
Link to the app

Breakthrough: Rapid Prototyping via AI



**Domain
Expert**

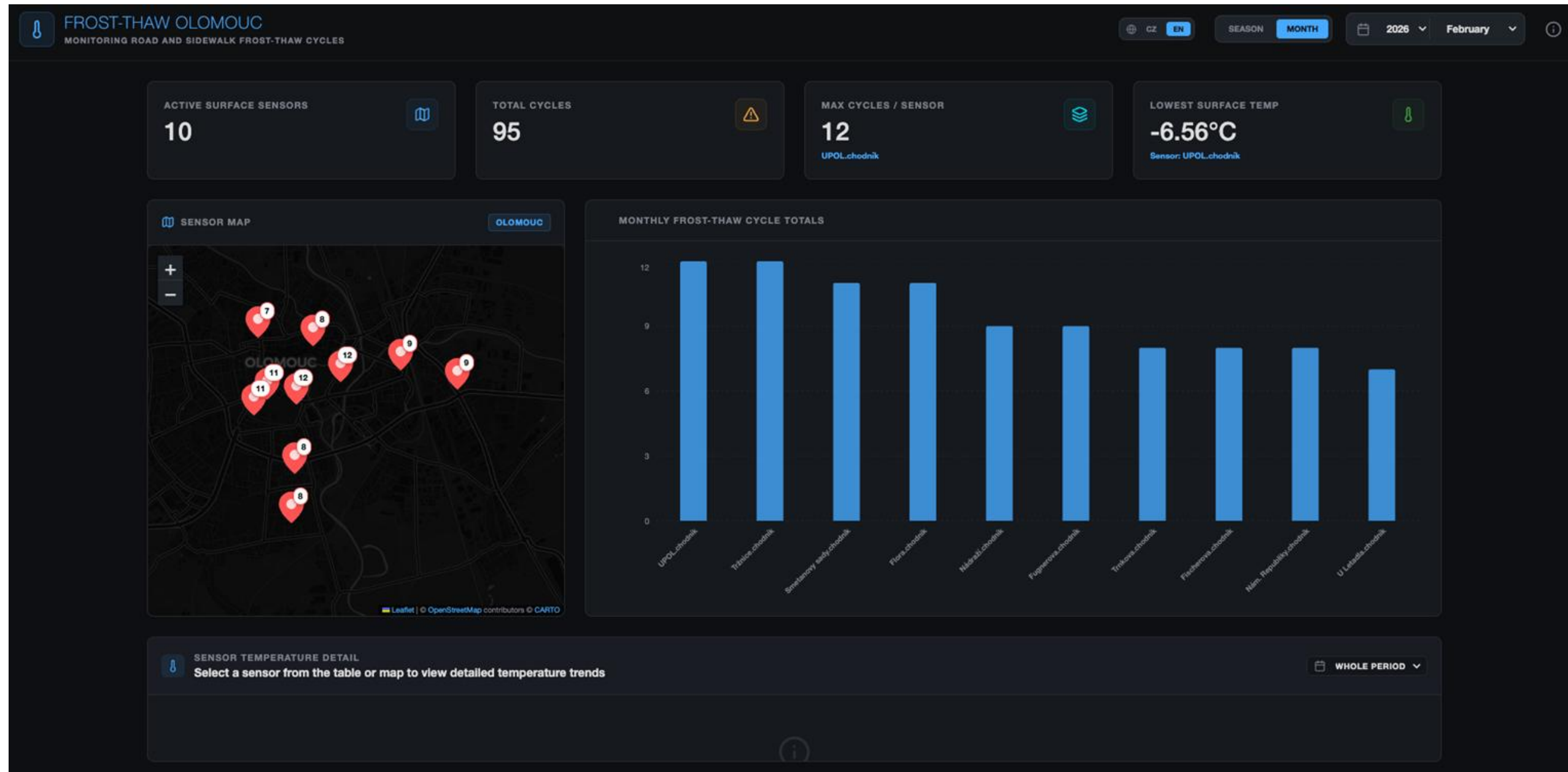
**AI
Manifest**



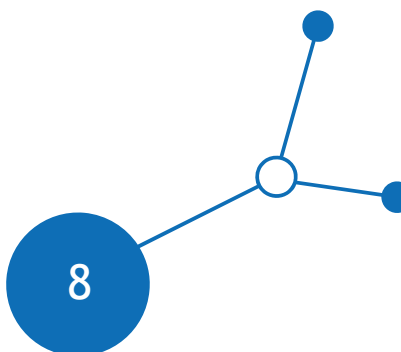
**Advanced
App Prototypes**

The rules have changed. An expert with no coding experience uses the AI Manifest to instantly connect, structure, and build tools. The IT bottleneck is completely eliminated.

Digital tool 1 - Frost-thaw in Olomouc



Link to the app



Digital tool 2 - DTR temperatures in Olomouc

Diurnal Temperature Range for Olomouc City ONLINE Data collection active CZ EN

Station Overview in Period

Dashboard: July 2025 SUMMARY OVERVIEW

Sort by: Worst (DTR) | Period: July 2025

#	SENSOR / LOCATION	AVG TEMPERATURE RANGE	P5 (THRESHOLD) DTR HISTOGRAM	P95 (LIMIT) DTR HISTOGRAM	MONTHLY TEMP PEAK	DTR DISTRIBUTION	RECORDS
1	TRNKOVA	15.3°C	3.5°C	23.4°C	25.5°C		32
2	SMETANOVY SADY	15.6°C	3.8°C	24.8°C	25.3°C		32
3	FISCHEROVA	13.7°C	4.0°C	20.7°C	22.7°C		32
4	U LETADLA	13.8°C	3.7°C	20.6°C	21.4°C		32
5	NÁM. REPUBLIKY	13.0°C	2.8°C	19.1°C	20.1°C		32
6	TRŽNICE	12.8°C	3.6°C	19.6°C	21.1°C		32
7	FUGNEROVA	11.3°C	3.1°C	17.9°C	18.7°C		32
8	FLORA	10.3°C	2.6°C	16.4°C	17.1°C		32

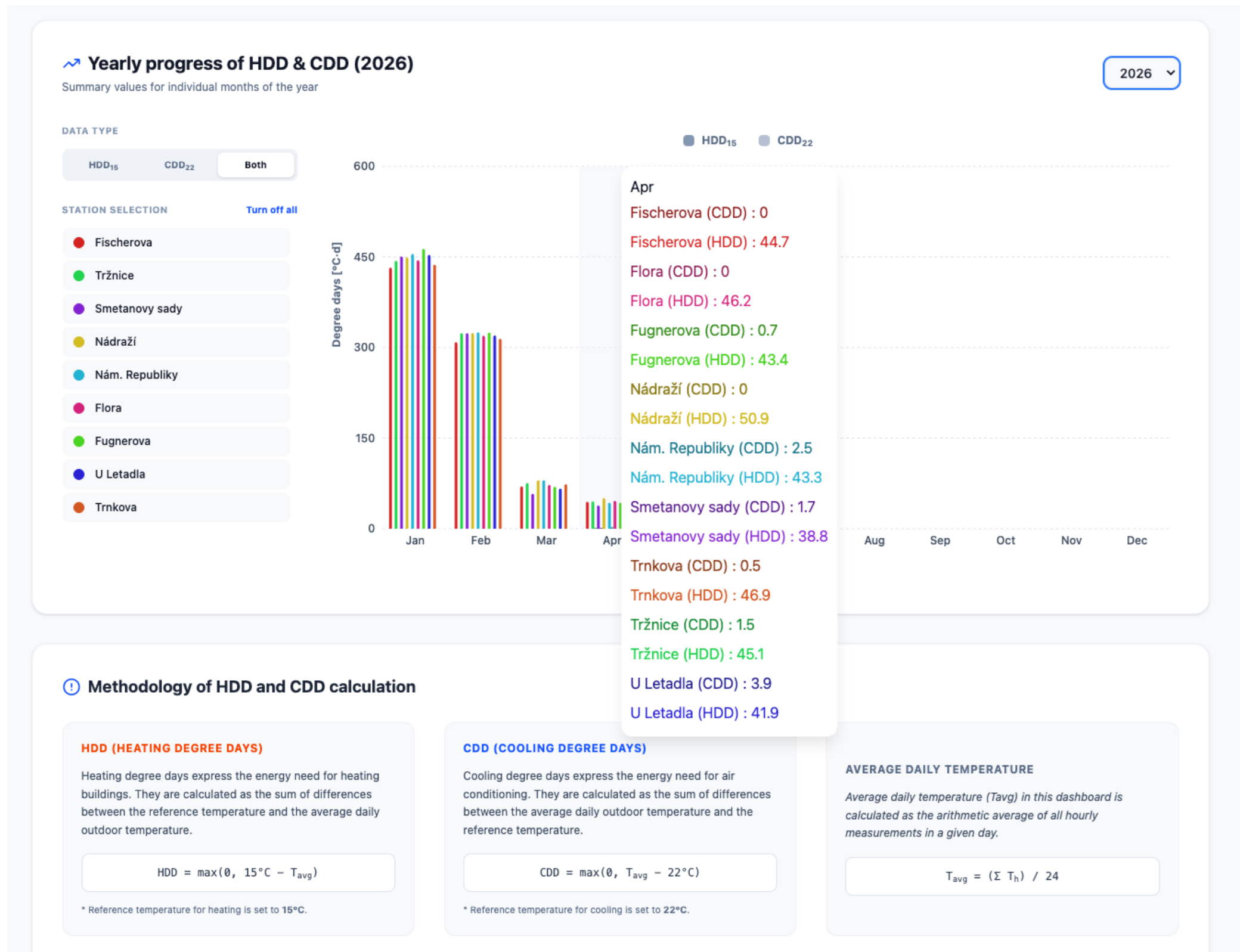
[CANCEL SELECTION →](#)

WHAT IS DTR?
DTR Diurnal Temperature Range (DTR) represents the difference between daily maximum and minimum air temperature. In an urban environment, this indicator is key to monitoring the heat island effect. The lower the DTR, the less the location cools down at night.



Link to the app

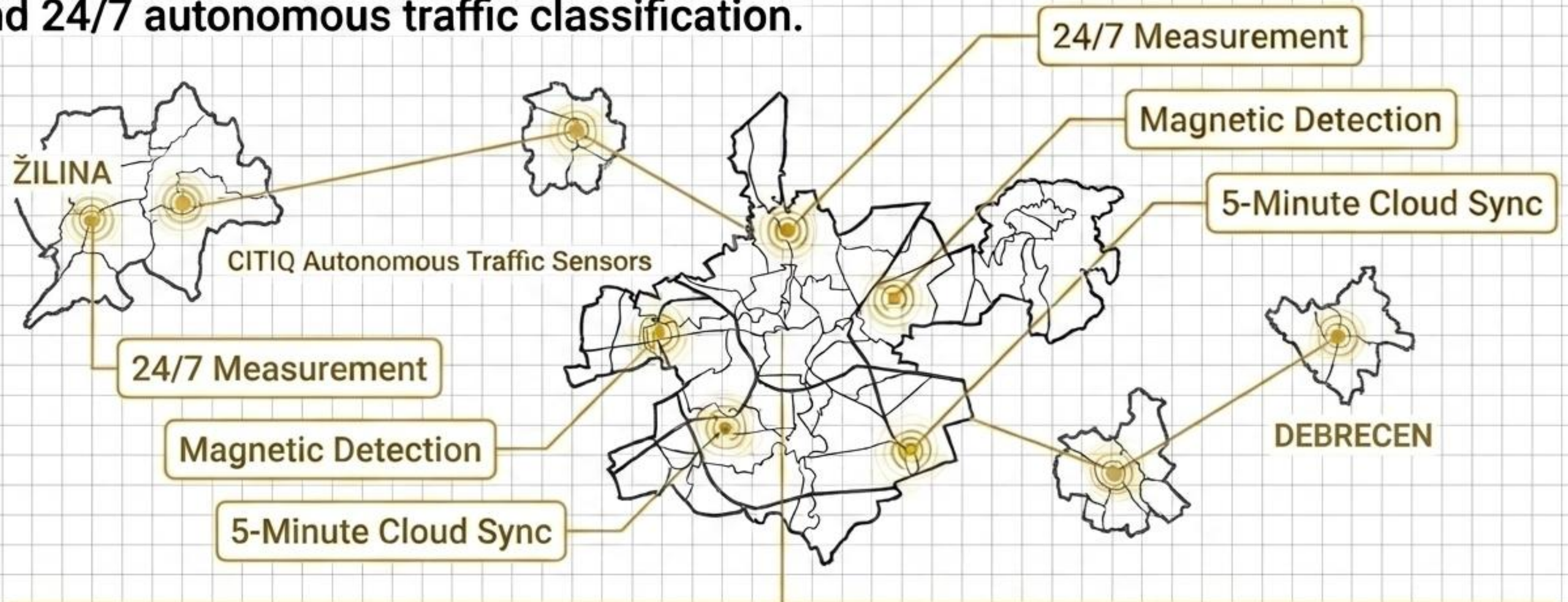
Digital tool 3 - CDD/HDD in Olomouc



Link to the app

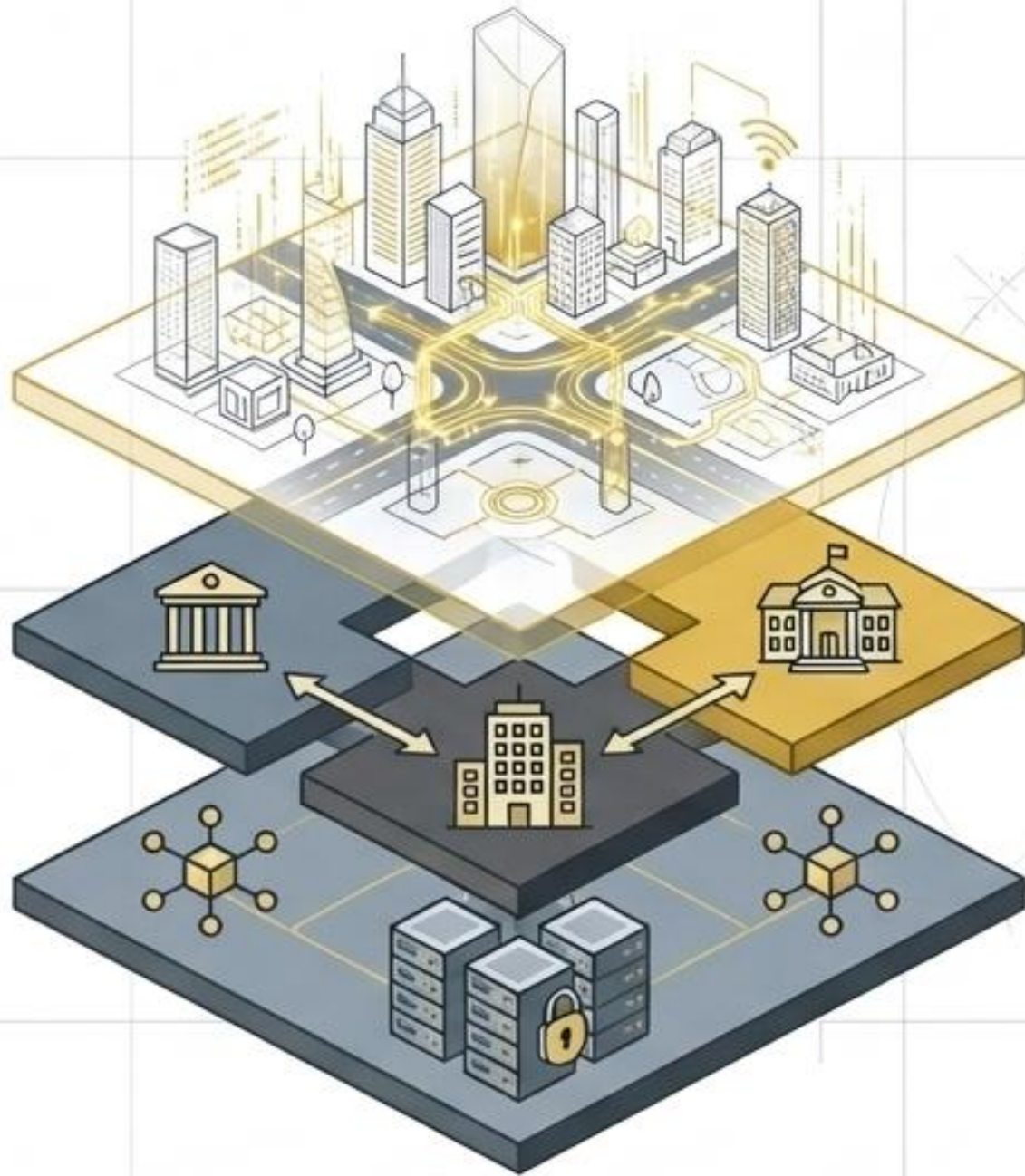
The Multiplication Effect

Scaling from temperature to 60 city micro-zones and 24/7 autonomous traffic classification.



Once open data is on the portal, any expert can use the AI Manifest to instantly prototype solutions for parking, traffic, or sustainability. This multiplication effect also extends between cities, allowing one application to serve multiple municipalities.

Summary & Vision: The Path Forward



The Digital Twin

Win-Win Collaboration

Guaranteed Open Data

- **Time & Cost Efficiency:** Reliable data portals + AI Manifest slash development cycles.
- **Empowered Experts:** Domain specialists can prototype smart solutions, like AI chatbots, independently.
- **Automated City Management:** The true foundation for a functional Digital Twin.

You can't manage what you don't measure.

CITIQ

Intelligent technologies
for urban mobility



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